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Robert Moll

U.S. PATENT AND TRADEMARK OFFICE

In re Application of: Dawei Dong

Examiner: Leon Scott, Jr.

Title: Laser Level

Art Unit: 2881

Application No. 08/936,304

Attorney Docket No. Black & Decker 703

Filing date: September 24, 1997

DECLARATION OF JERRY Y. TENG

Assistant Commissioner for Patents

Washington, D.C. 20231

I, Jerry Y. Teng, hereby declare the following:

1. I am the Executive Director of the DeWalt Santa Clara Laser Engineering Center.
2. I have a Bachelor of Science degree in electrical engineering, which I obtained in 1985 from the University of Washington.
3. I have been working in the field of laser level systems for about seven years.
4. I have reviewed U.S. Patent No. 5,754,582 ("the '582 Patent").
5. The '582 Patent discloses a motor coupled to the shaft adapted to drive the shaft more than 360 degrees in a single direction in plane mode.

1 6. In particular, the '582 Patent discloses a DC motor 14 having a shaft 100 with a
2 small pulley 20 fitted thereon. The '582 Patent, col. 6, lines 51-52. The main pulley 24 is coupled
3 to a small pulley 20 by means of a pulley belt 22. The '582 Patent, col. 6, lines 46-47. The main
4 pulley 24 in turn has a set of upper magnets 25 secured thereto. The '582 Patent, col. 6, line 43.
5 The upper magnets 25 magnetically couple to the lower magnets 26, which are disposed on a
6 free wheel 32. The '582 Patent, col. 7, lines 1-13. The free wheel 32 is rigidly attached to a main
7 shaft 37. The '582 Patent, col. 6, lines 58-59. The main shaft 37 is part of the module housing
8 36 containing laser diode modules 38, 39. The '582 Patent, col. 6, lines 27-31.

9 7. With such arrangement, as the DC motor 14 rotates, the small pulley 20 rotates
10 the pulley belt 22, which drives the main pulley 24. The rotation of the main pulley 24 and the
11 attractive force between the upper magnets 25 and the lower magnets 26 will cause the free
12 wheel 32 to rotate, which causes the main shaft 37, the module housing 36 and the laser diode
13 modules 38, 39 to rotate until power to motor 14 is interrupted. The '582 Patent, col. 7, lines 8-
14 13.

15 8. Until such power is interrupted, motor 14 will continue to rotate the small pulley
16 20 and ultimately the main shaft 37 and the module housing 36 well past 360 degrees to
17 generate a level plane of reference light. The '582 Patent, col. 9, lines 23-26. When in plane
18 mode, the laser level accordingly provides "a level 360 degree reference plane." The '582
19 Patent, Abstract, lines 12-13.

20
21 9. The '582 Patent also discloses a motor coupled to the shaft adapted to rotatably
22 drive the shaft, as well as the shaft being rotated so that the first and second laser diodes
23 produce the level 360 degree reference plane.

24 10. In particular, the '582 Patent discloses a DC motor 14 having a shaft 100 with a
25 small pulley 20 fitted thereon. The '582 Patent, col. 6, lines 51-52. The main pulley 24 is coupled
26 to a small pulley 20 by means of a pulley belt 22. The '582 Patent, col. 6, lines 46-47. The main
27 pulley 24 in turn has a set of upper magnets 25 secured thereto. The '582 Patent, col. 6, line 43.
28 The upper magnets 25 magnetically couple to the lower magnets 26, which are disposed on a
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30 main shaft 37. The '582 Patent, col. 6, lines 58-59. The main shaft 37 is part of the module
housing 36 containing the laser diode modules 38, 39. The '582 Patent, col. 6, lines 27-31.

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2 11. With such arrangement, as DC motor 14 rotates, the small pulley 20 rotates the
3 pulley belt 22, which drives the main pulley 24. The rotation of the pulley 24 and the attractive
4 force between the upper magnets 25 and lower magnets 26 will cause the free wheel 32 to
5 rotate, which causes the main shaft 37, the module housing 36 and the laser diode modules 38,
6 39 to rotate. The '582 Patent, col. 7, lines 8-13. As the main shaft 37, the module housing 36
7 and the laser diode modules 38, 39 are rotated, the laser diode modules 38, 39 generate a level
8 plane of reference light. The '582 Patent, col. 9, lines 23-26. When in plane mode, the laser
9 level accordingly provides "a level 360 degree reference plane." The '582 Patent, Abstract, lines
10 12-13.

11 12. I hereby declare that all statements made herein of my own knowledge are true and
12 that all statements made on information and belief are believed to be true, and further that these
13 statements were made with the knowledge that willful false statements and the like so made are
14 punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States
15 Code and that such willful false statements may jeopardize the validity of the application or any
16 patent issued thereon.

17 

18 Mr. Jerry Y. Teng

19 Executive Director

20 DeWalt Santa Clara Laser Engineering Center

21 Santa Clara, California

22 Date: January 21, 2002